



1407 Washington Ave Golden CO 80401

MEMORANDUM

DATE: April 29, 2024
TO: Josue Loma, Aurora Planning & Development Services
FROM: Leif Rosenvold
RE: EV Chargers, 14500 E. Colfax Ave.
Case Number: 1977-6008-05

Below are responses to the city comments received July 12, 2023, for the above-referenced project.

1. 1A. As required for all minor amendments, please provide a letter of introduction explaining the scope of the work.

Response: See LOI

2. 1B. Page 1: Please reference the detail number for each sign or service and mechanical equipment on the plans.

Response: Added detail letters to SDP for reference to sheet E0.3.

3. 1B. Page 1: For any mechanical equipment greater than 4' in height, per Sec. 4.7.8 (b)(1)(c) and 4.8.11(b)(2), it must be screened by architecturally compatible walls and/or landscaping. Please demonstrate how the service and mechanical equipment will be screened by using one or both options.

Response: See page 2 for landscape architectural notes on screening.

4. 1C. Page 3: Please remove the delta 1 and cloud around the service and mechanical equipment details.

Response: Removed delta 1 and cloud.

5. 1C. Page 3: Please number all details and reference their location on sheet 1 (page 1).

Response: Added detail letters to SDP for reference to sheet E0.3.

6. 1C. Page 3: Please note the heights and widths of all service and mechanical

equipment, and please note that for any mechanical equipment greater than 4' in height, per Sec. 4.7.8 (b)(1)(c) and 4.8.11(b)(2), it must be screened by architecturally compatible walls and/or landscaping. Please demonstrate how the service and mechanical equipment will be screened by using one or both options.

Response: Added heights and widths to electrical details sheet E0.3. See page 2 for landscape architectural notes on screening.

7. 1C. Page 3: Please note the heights and widths of all service and mechanical equipment, and please note that for any mechanical equipment greater than 4' in height, per Sec. 4.7.8 (b)(1)(c) and 4.8.11(b)(2), it must be screened by architecturally compatible walls and/or landscaping. Please demonstrate how the service and mechanical equipment will be screened by using one or both options.

Response: Added detail letters to SDP for reference to sheet E0.3.

8. 2A. Please clarify whether the proposed Vehicle Charging Station is intended for the General Public's use or solely for the Dealership's Private use on site.

Response: Private use for dealership.

9. 3A. Page 1: Please update the note language to state the following:

All crossings or encroachments into easements and rights-of-way owned by the City of Aurora ("City") identified as being privately-owned and maintained herein are acknowledged by the undersigned as being subject to City's use and occupancy of said easements or rights-of-way. The undersigned, its successors and assigns, further agrees to remove, repair, replace, relocate, modify, or otherwise adjust said crossings or encroachments upon request from the City and at no expense to the City. The City reserves the right to make full use of the easements and rights-of-way as may be necessary or convenient and the City retains all rights to operate, maintain, install, repair, remove or relocate any City facilities located within said easements and rights-of-way at any time and in such a manner as it deems necessary or convenient.

Architectural features (i.e. bay windows, fireplaces, roof overhang, gutters, eaves, foundation, footings, cantilevered walls, etc.) are not allowed to encroach into any easement or fire lane.

Response: Page 1 Updated.

END OF MEMO



PANEL EV1																
Mounting Method			Fed From			Panel Information										
PAD			300KVA XFMR			Voltage: 480/277			Bus Rating: 400 AMP							
Panel Status			Panel Options			Phase: 3			Main Breaker: 400 AMP							
NEW			NEMA 3R ENCLOSURE			Wire: 4			AIC Rating: 30,000							
Ckt #	Notes	Code	Description	Load VA	Bkr	P	Ph A	Ph B	Ph C	P	Bkr	Load VA	Description	Code	Notes	Ckt #
1			TRANSFORMER T-EV2	41600								41600				7
2																7
3																4
4																4
5																6
6																6
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Code	Description	Load VA	Dem	Per	Phase
1	EV Charger	120000	125%	Ph A	53667 VA
2	Rec up to 10,000		100%	Ph B	13367 VA
2	Rec over 10,000		50%	Ph C	13367 VA
3	Motor		100%		
3	Largest Motor		125%		
4	Heater		100%	Connected	161600 VA
5	Kitchen		100%	Code Demand	191600 VA
6	Other		100%		
7	Sub Panel	41600	100%	Code Demand	230.73 Amps

NOTES:
 ALL EQUIPMENT AND BREAKERS TO BE RATED ABOVE THE AT FAULT CURRENT SHOWN ON THE SHORT CIRCUIT CALCULATION.
 A PROVIDE FIXED BREAKER LOCKOUTS ON DEAD FRONT.

PANEL EV2																
Mounting Method			Fed From			Panel Information										
PAD			PANEL EV1/TRANSF.			Voltage: 208/120			Bus Rating: 225 AMP							
Panel Status			Panel Options			Phase: 3			Main Breaker: 225 AMP							
NEW			NEMA 3R ENCLOSURE			Wire: 4			AIC Rating: 22,000							
Ckt #	Notes	Code	Description	Load VA	Bkr	P	Ph A	Ph B	Ph C	P	Bkr	Load VA	Description	Code	Notes	Ckt #
1			EV CHARGER 1	16640								16640				2
2																2
3																4
4																4
5																6
6																6
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Code	Description	Load VA	Dem	Per	Phase
1	EV Charger	33280	125%	Ph A	16640 VA
2	Rec up to 10,000		100%	Ph B	8320 VA
2	Rec over 10,000		50%	Ph C	8320 VA
3	Motor		100%		
3	Largest Motor		125%		
4	Heater		100%	Connected	33280 VA
5	Kitchen		100%	Code Demand	41600 VA
6	Other		100%		
7	Sub Panel		100%	Code Demand	115.61 Amps

NOTES:
 ALL EQUIPMENT AND BREAKERS TO BE RATED ABOVE THE AT FAULT CURRENT SHOWN ON THE SHORT CIRCUIT CALCULATION.

- GENERAL NOTES:**
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND THE BUILDING ENGINEERING DEPARTMENT PRIOR TO START-UP OF THE CONSTRUCTION PROJECT FOR RULES AND REGULATIONS. SAFETY, NEC, LOCAL CODES AND OTHER APPLICABLE CODES ARE TO BE UNDERSTOOD AS MINIMUM REQUIREMENTS.
 - THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN CHARACTER. LOCATIONS SHOWN FOR ELECTRICAL EQUIPMENT, DEVICES, CIRCUITING, ETC. ARE APPROXIMATE. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT DEVICE LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, DETAILS, AND MILLWORK SHOP DRAWINGS. ALL DIMENSIONS ARE TO BE TAKEN OFF OF ARCHITECTURAL PLANS OR MANUFACTURER'S SHOP DRAWINGS. DO NOT SCALE OFF OF ELECTRICAL PLANS.
 - SAFETY DISCONNECT SWITCHES - HEAVY DUTY TYPE, RATED FOR MOTORS OR HEATING AS INDICATED ON PLANS; STANDARD ENCLOSURE INDOORS AND WEATHER-TIGHT NEMA 3R ENCLOSURE OUTDOORS; FUSED OR NON-FUSED AS REQUIRED. FUSE SIZES TO BE AS RECOMMENDED BY EQUIPMENT MANUFACTURER. ELECTRICAL CONTRACTOR SHALL PROVIDE SAFETY DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT, EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON MECHANICAL PLANS. (REFER TO MECHANICAL PLANS AND EQUIPMENT SCHEDULES FOR OTHER REQUIREMENTS.) WHERE FUSED DISCONNECTS ARE UTILIZED, FUSE SIZE SHALL BE VERIFIED WITH MANUFACTURER'S CUT SHEETS AND UNIT NAMEPLATE DATA WHEN UNIT ARRIVES ON SITE OR AS REQUIRED BY LOCAL CODE AND ORDINANCES. SHOULD FUSE REQUIREMENTS BE OTHER THAN SHOWN, NOTIFY ENGINEER IMMEDIATELY.
 - ELECTRICAL PANELS - DOOR-IN-DOOR TYPE WITH QUICK-MAKE, QUICK-BREAK CIRCUIT BREAKERS AND PROVIDED WITH FULL SIZE GROUND BUS AND NEUTRAL BUS. ALL BUSES SHALL BE COPPER UNLESS OTHERWISE NOTED. IF REQUIRED, PROVIDE A FULL SIZE ISOLATED GROUND BUS BAR AND CONNECT PER N.E.C. REQUIREMENTS. REFER TO ELECTRICAL ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION. LOAD CENTERS ARE NOT ALLOWED AND WILL BE REPLACED BY THE ELECTRICAL CONTRACTOR, AT THEIR EXPENSE IF THE LOAD CENTERS ARE INSTALLED.
 - CIRCUIT BREAKERS - MOLDED CASE TYPE WITH THERMAL MAGNETIC TRIPS. FRAME SIZE, NUMBER OF POLES, AND TRIP SETTING AS SHOWN ON PLANS OR SCHEDULES.

- KEY NOTES:**
- COORDINATE FINAL REQUIREMENTS FOR UTILITY TRANSFORMER WITH UTILITY COMPANY.
 - COORDINATE FINAL REQUIREMENTS FOR CT CABINET AND METER WITH UTILITY COMPANY.
 - PROVIDE NEW NEMA 3R PANEL WITH A MAIN CIRCUIT BREAKER. SEE PANEL SCHEDULE FOR MORE INFORMATION.
 - PROVIDE ALL NECESSARY CONNECTIONS AND EQUIPMENT FOR NEW EV CHARGING STATION.
 - SEE SHORT CIRCUIT CALCULATION FOR DISTANCES. ALL DISTANCES ASSUMED FOR SHORT CIRCUIT CALCULATIONS, IF INSTALLED AT SHORTER DISTANCES THAN SHOWN ON SHORT CIRCUIT CALCULATION, CONTACT ENGINEER.
 - ELECTRIC VEHICLE CHARGES WILL BE BILLED AT A DIFFERENT RATE PER UTILITY COMPANY TARIFF RATES FOR ELECTRIC VEHICLE CHARGERS. PER 230.2(D) ADDITIONAL SERVICES SHALL BE PERMITTED FOR DIFFERENT RATE SCHEDULES.
 - PROVIDE SSBJ PER NEC 250.92. PROVIDE #10 CU CONDUCTOR PER NEC TABLE 250.102(C)(1) FROM GROUNDED CONDUCTOR TO METAL ENCLOSURE.
 - PROVIDE #10 AWG CU G.E.C. TO EXISTING GROUND BAR. CONFIRM BUILDING STEEL, COLD WATER AND CONCRETE ELECTRODE CONNECTION ARE PRESENT. ALL AVAILABLE G.E.C. CONNECTIONS PRESENT MUST BE MADE PER NEC 250.50.
 - PROVIDE PERMANENT PLAQUE AT EACH SERVICE IDENTIFYING ALL SERVICE DISCONNECTS LOCATIONS PER 230.2 (E). PROVIDE IDENTIFICATION OF SERVICE DISCONNECT PER 230.70(B).

Short Circuit Calculation

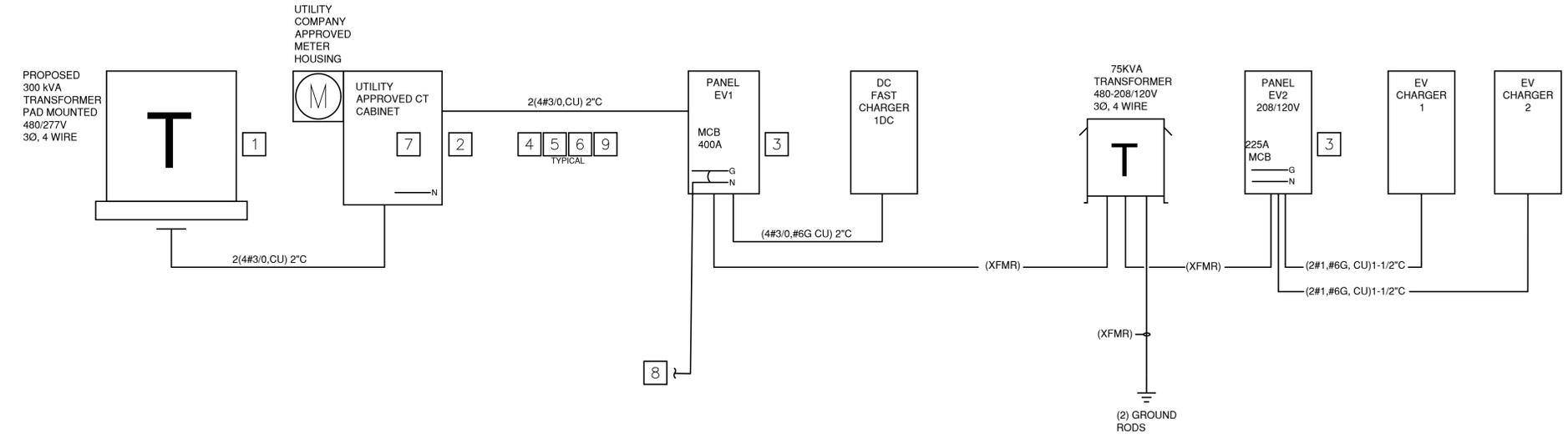
Fault "X"	Isc Available	Feeder Wire Size	Conduit		Wire Type	Constant "C"	Number of Sets	Length	Volts L to L	"f" Factor	"M" multiplier	Isc at Fault
			Steel	PVC								
UTILITY	22,500				CU	13923	2	50	480	0.1458	0.8728	19,637
METER/CT CABINET	22,500	3/0	X		CU	13923	2	15	480	0.0382	0.9632	18,915
PANEL EV1	19,637	3/0	X		CU	13923	1	200	480	0.9804	0.5049	9,551
DC FAST CHARGER	18,915	3/0	X		CU	13923	1	200	480	0.9804	0.5049	9,551
TRANSFORMER	18,915											5,175
PANEL EV2	5,175	4/0	X		CU	16673	1	20	208	0.0517	0.9509	4,921
EV CHARGER 1	4,921	1	X		CU	7493	1	200	208	1.0937	0.4776	2,350
EV CHARGER 2	4,921	1	X		CU	7493	1	240	208	1.3124	0.4325	2,128

NOTES: 1. SHORT CIRCUIT CURRENT RATING (SCCR) FOR TALLUS POWER GREEN DC FAST CHARGER IS 20KA.

TRANSFORMER TABLE 480V - 208/120V

T	PRIMARY SIDE				GROUND				SECONDARY SIDE				
KVA	BREAKER	FEEDER (CU)		WIRE (CU) PER 250.66	CONDUIT	WIRE (CU) PER 250.104 & 250.102(C)(1)	CONDUIT	FLA	BREAKER	FEEDER (CU)		%Z	MAX KAIC
75	125	(3#1,#6G) 1-1/2" C		2	3/4"	2	3/4"	207	225	(4#4/0,#2G) 2-1/2" C		4%	5,175

1. FEEDERS ARE SIZED PER NEC. ELECTRICAL CONTRACTOR TO NOTIFY ENGINEER IF EXISTING SITE CONDITIONS REQUIRE DIFFERENT FEEDERS.



1 ELECTRICAL ONE-LINE DIAGRAM DESIGN AND INSTALL SHALL COMPLY WITH 2020 NEC . DESIGN COMPLIES WITH OR EXCEEDS ALL PREVIOUS NEC CODES YEARS.
 SCALE: NONE



EV CHARGING
 14500 E COLFAX AVE
 AURORA, CO 80011

DRAWN BY: KM
CHECKED BY: LR

REVISIONS:

No.	DESCRIPTION	DATE

ISSUE RECORD:

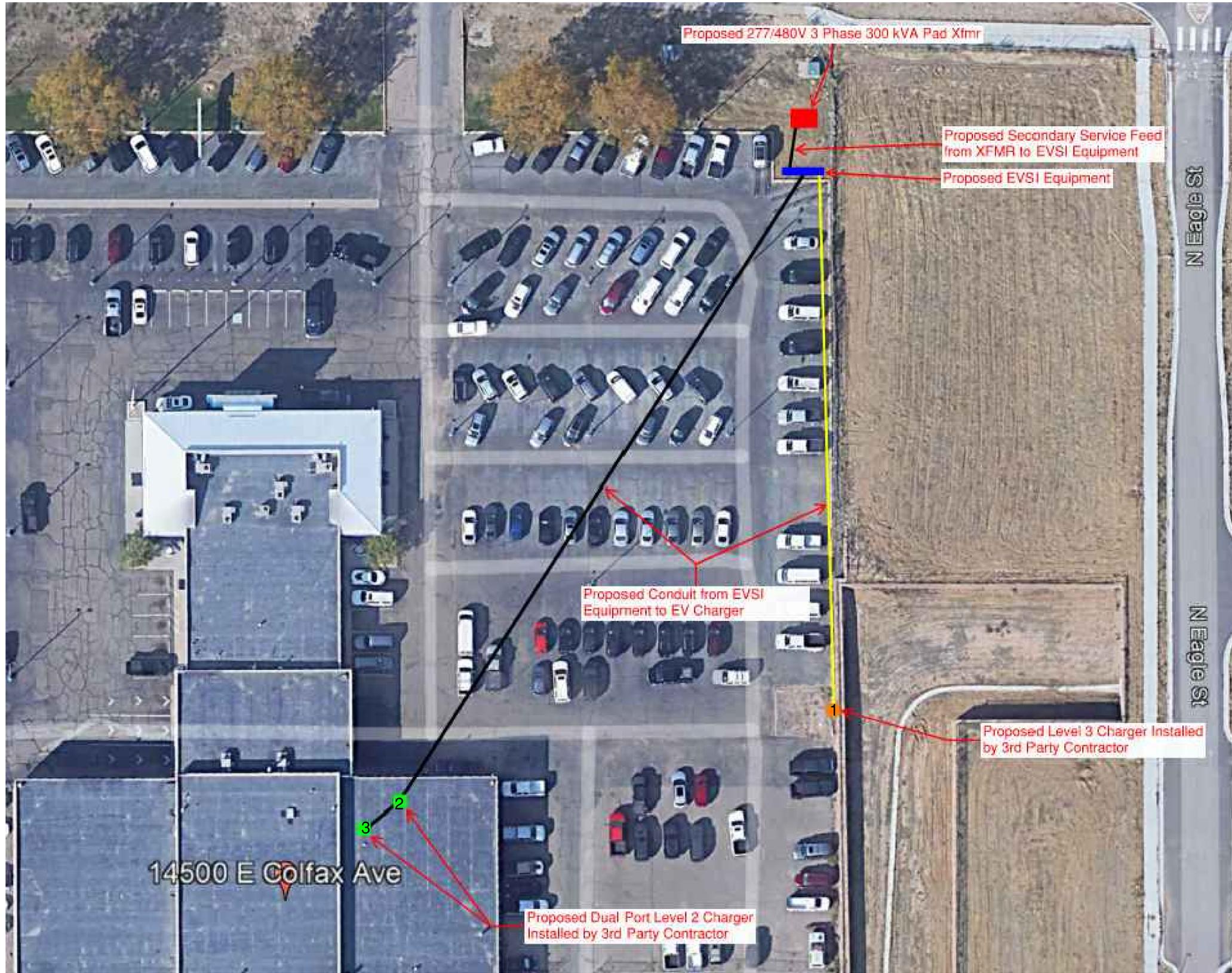
No.	DESCRIPTION	DATE
1	PERMIT SET	2023.04.20

SHEET TITLE:
ELECTRICAL ONE-LINE AND SCHEDULES



DATE: 2023.03.15

DRAWING NO.:
E0.1



EV CHARGING

14500 E COLFAX AVE
AURORA, CO 80011

DRAWN BY: KM
CHECKED BY: LR

REVISIONS:

No.	DESCRIPTION	DATE
1		
2		
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ISSUE RECORD:

No.	DESCRIPTION	DATE
1	PERMIT SET	2023.04.20
2		
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SHEET TITLE:

ELECTRICAL SITE LAYOUT



04.20.2023

DATE: 2023.03.15

DRAWING NO.:

E0.2

1 ELECTRICAL SITE LAYOUT
SCALE: 5/128"=1'-0"

DESIGN AND INSTALL SHALL COMPLY WITH 2020 NEC . DESIGN COMPLIES WITH OR EXCEEDS ALL PREVIOUS NEC CODES YEARS.